802.11g Wireless Router

Model # AR325W

User's Manual

Ver. 1A

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1. Introduction

Congratulations on your purchase of this 802.11g Wireless Router. This product is specifically designed for Small Office and Home Office needs. It provides a complete SOHO solution for Internet surfing and is easy to configure and operate even for non-technical users. Instructions for installing and configuring this product can be found in this manual. Before you install and use this product, please read this manual carefully for proper operation of this product.

1.1 Functions and Features

Basic Functions

- **NAT Routing**
  Connects multiple computers to a broadband (cable or DSL) modem or an Ethernet router to surf the Internet.
- **Auto-Sensing Ethernet Switch**
  Equipped with a 4-port auto-sensing Ethernet switch.
- **WAN Types supported**
  The router supports the following WAN types: Static IP, Dynamic IP, PPPoE, PPTP, and Dynamic IP with Road Runner.
- **Firewall**
  All unwanted packets from outside intruders are blocked to protect your Intranet.
- **DHCP Server Supported**
  All of the networked computers can retrieve TCP/IP settings automatically from this product.
- **Web-Based Configuration**
  Configurable through any networked computer's web browser using Netscape or Internet Explorer.
- **Virtual Server supported**
  Allows you to expose WWW, FTP, and other services on your LAN to the Internet.
- **User-Definable Application Sensing Tunnel**
  User can open multiple ports for special applications that require multiple connections like Internet gaming, video conferencing, Internet telephony, etc.
- **DMZ Host Supported**
  Allows a networked computer to be fully exposed to the Internet; this function is used when the special application sensing tunnel feature is insufficient to allow an application to function correctly.
- **Statistics of WAN Supported**
  - Enables you to monitor inbound and outbound packets

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Security Functions

- **Packet Filter Supported**
  Packet Filter allows you to control access to a network by analyzing the incoming and outgoing packets and allowing or denying them access based on the IP address of the source and destination.
- **Domain Filter Supported**
  - Lets you prevent users from accessing specified domains through this device.
- **URL Blocking Supported**
  - Lets you prevent users from accessing specified URLs through this device.
- **VPN Pass-Through**
  - Support VPN pass-through.
- **SPI Mode Supported**
  - When SPI Mode is enabled, the router will check every incoming packet to determine if the packet is valid.
- **DoS Attack Detection Supported**
  - When this feature is enabled, the router will detect and log any DoS attack that comes from the Internet.

Advanced Functions

- **System Time Supported**
  - Allows you to synchronize the system time with a network time server.
- **E-mail Alert Supported**
  - The router can send e-mail alerts to a specified e-mail address.
- **Dynamic DNS Supported**
  - Supports dyndns,TZO.com, and dhs.org.
- **SNMP Supported**
  - Supports basic SNMP functions.
- **Routing Table Supported**
  - Supports static routing table.
- **Schedule Rule Supported**
  - Schedule the time when services such as virtual server or packet filter will be active.

Other Functions

- **UPNP (Universal Plug-and-Play) Supported**

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2. Hardware Installation

2.1 Connect the Router

Note: Prior to connecting the router, be sure to power off your computer, DSL/Cable modem, and the router.

Step 1 Connect one end of a network cable to the **WAN** port of the router and connect the other end of the cable to the DSL/Cable modem.

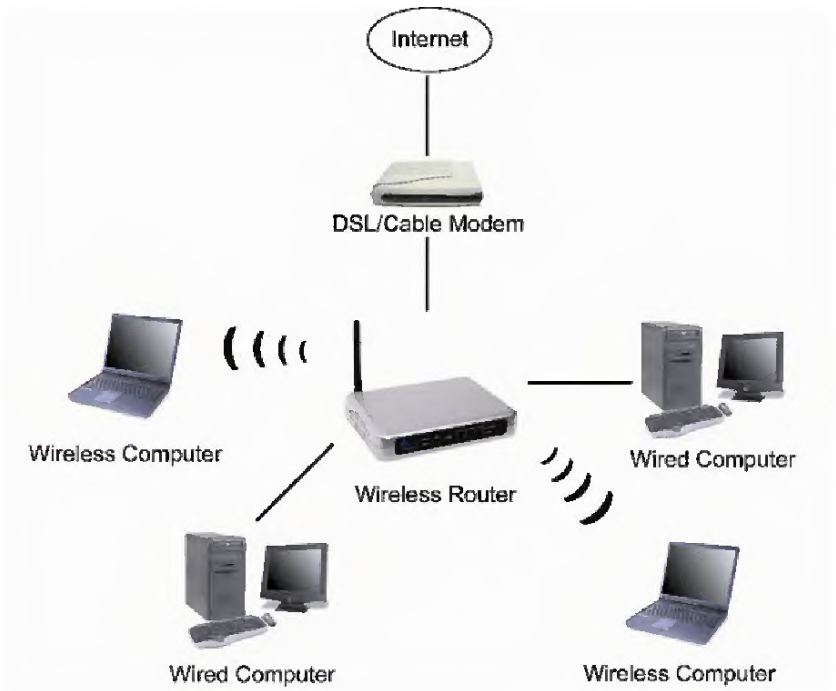
Step 2 With another network cable, connect one end of the cable to your computer's network card and connect the other end to one of the **LAN** ports of the router.

Step 3 Power on the DSL/Cable modem and wait for the lights on the modem to settle down.

Step 4 Power on the router by connecting one end of the supplied power adapter to the power jack of the router and connecting the other end to an electrical outlet.

Step 5 Power on your computer.

Step 6 Make sure the **WAN** and the **LAN** port that the computer is connected to are lit. If not, try the above steps again.



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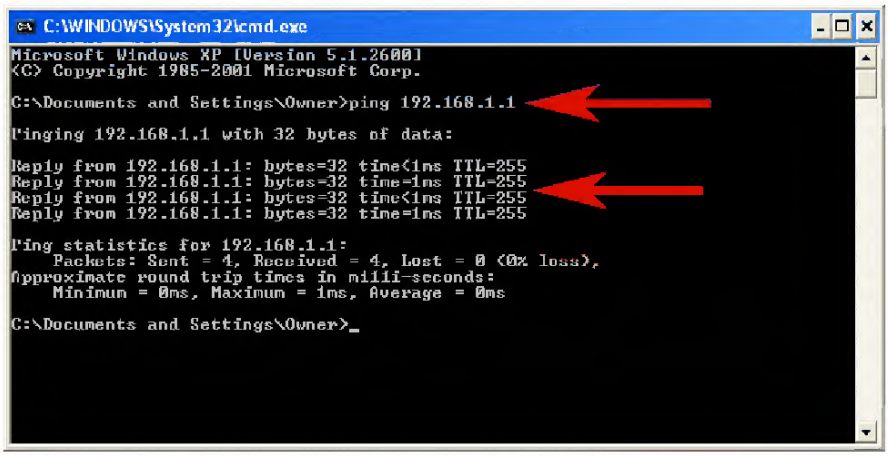
2.2 Verify Connection to Router

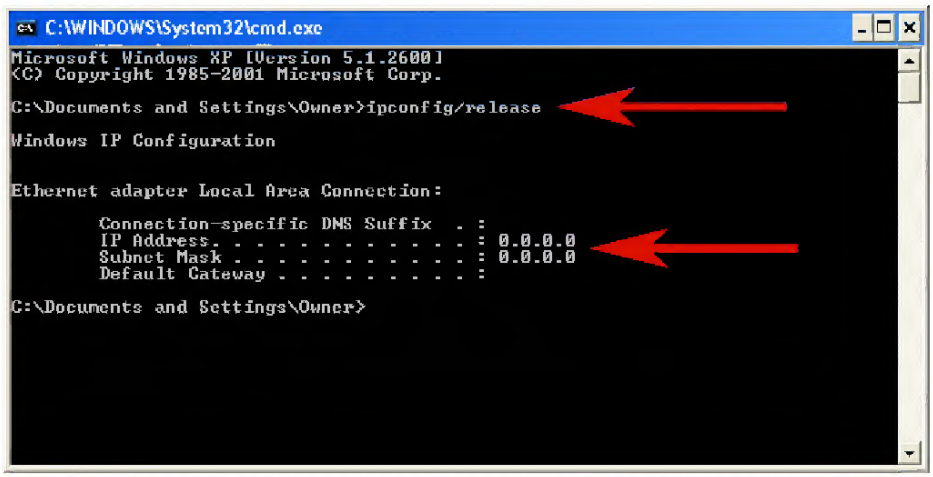
Step 1 Go to **Start**, **Run**, type **command** (for Windows 95/98/ME) or **cmd** (for Windows 2000/XP) and click **OK**. You will see the command prompt as below.

Step 2 Type **ping 192.168.1.1** and press **Enter**. You should get four reply responses back.


C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Owner>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=1ms TTL=255
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\Documents and Settings\Owner>_

Step 3 If you get **Request timed out**, or **Destination host unreachable**, double-check the network cable connection between the computer and the router and try **Step 2** again. If you still encounter problem, go to the next step; otherwise proceed to **Section 3, Configure the Router**.

Step 4 For Windows 2000/XP, type **ipconfig/release** and press **Enter**.


C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Owner>ipconfig/release
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
IP Address. . . . . : 0.0.0.0
Subnet Mask . . . . . : 0.0.0.0
Default Gateway . . . . . :
C:\Documents and Settings\Owner>

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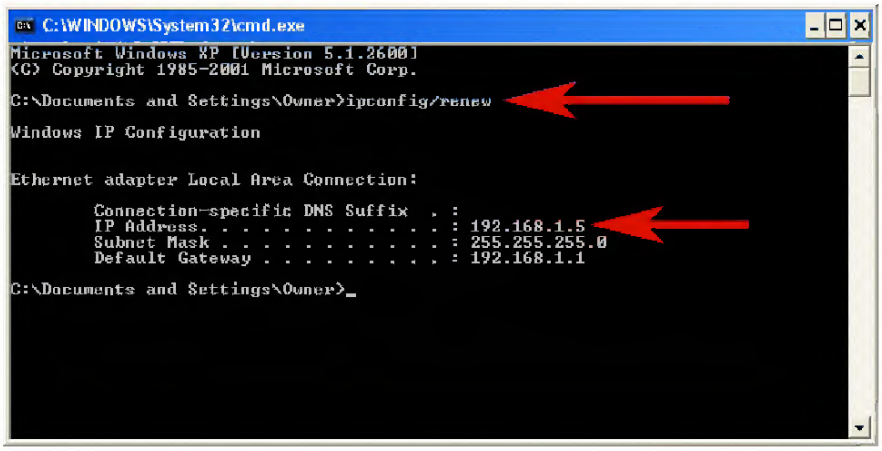
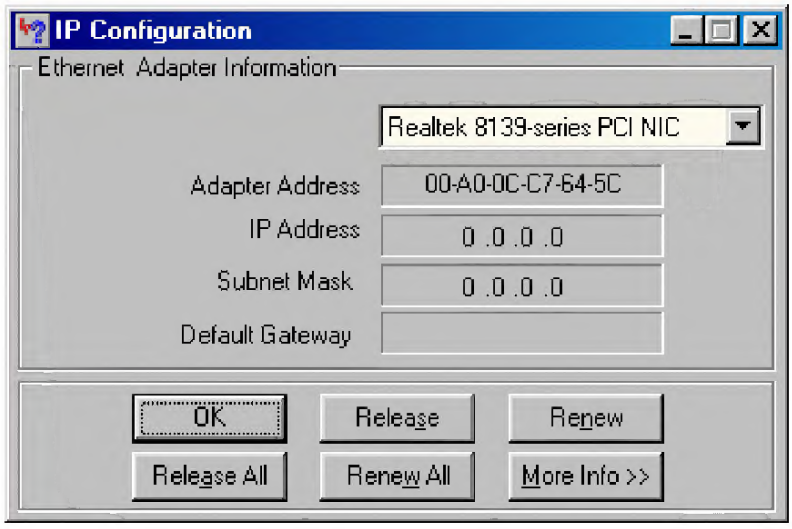
Step 5 Type **ipconfig/renew** and press **Enter**. You should get an IP address of **192.168.1.x** (where **x** is a number between 2 - 254). Proceed to **Section 3, Configure the Router.** If you don't get an IP address, reset the router by holding in the reset button at the back of the router for 10 seconds while it is ON and try **ipconfig/renew** again.


C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Owner>ipconfig/renew
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
IP Address. . . . . : 192.168.1.5
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.1.1
C:\Documents and Settings\Owner>

Step 6 For Windows 95/98/ME go to **Start**, **Run**, type **winipcfg** and click **OK**.

Step 7 Select your network card from the drop-down menu and click **Release**.



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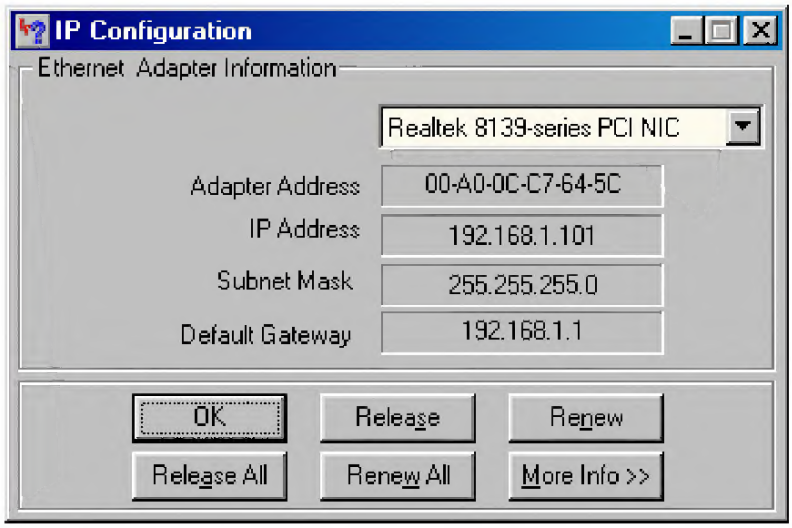
Step 8 After your IP address is released, click **Renew**. You should get an IP address of **192.168.1.x** (where **x** is a number between 2 - 254). If you don't get an IP address, reset the router by holding in the reset button at the back of the router for 10 seconds while it is ON and try **Renew** again.



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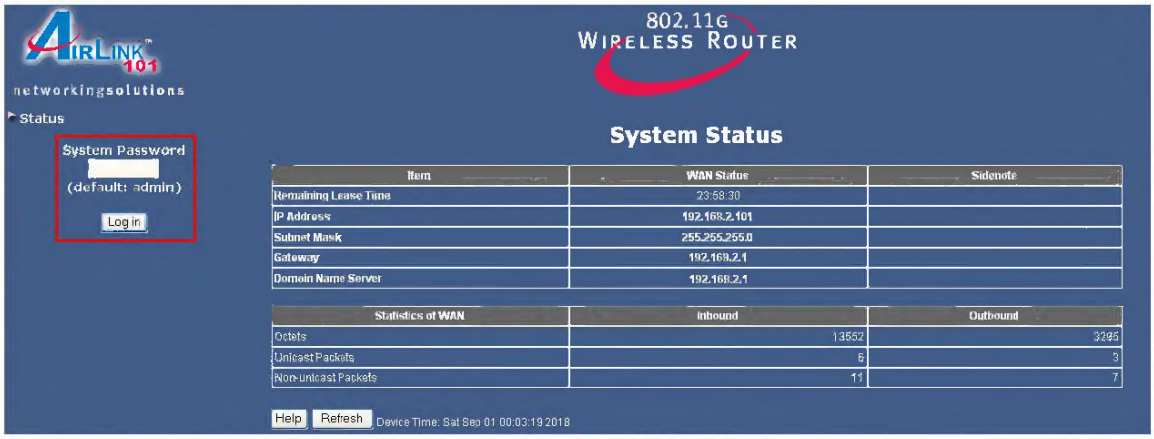
3. Configure the Router

3.1 Setup Wizard

Step 1 Open the web browser and type **192.168.1.1** in the URL Address field and press **Enter**.

Step 2 Enter **admin** for the password field and click **Log in**.



Step 3 Click on **Wizard** from the main menu and click **Next** to begin the Setup Wizard.

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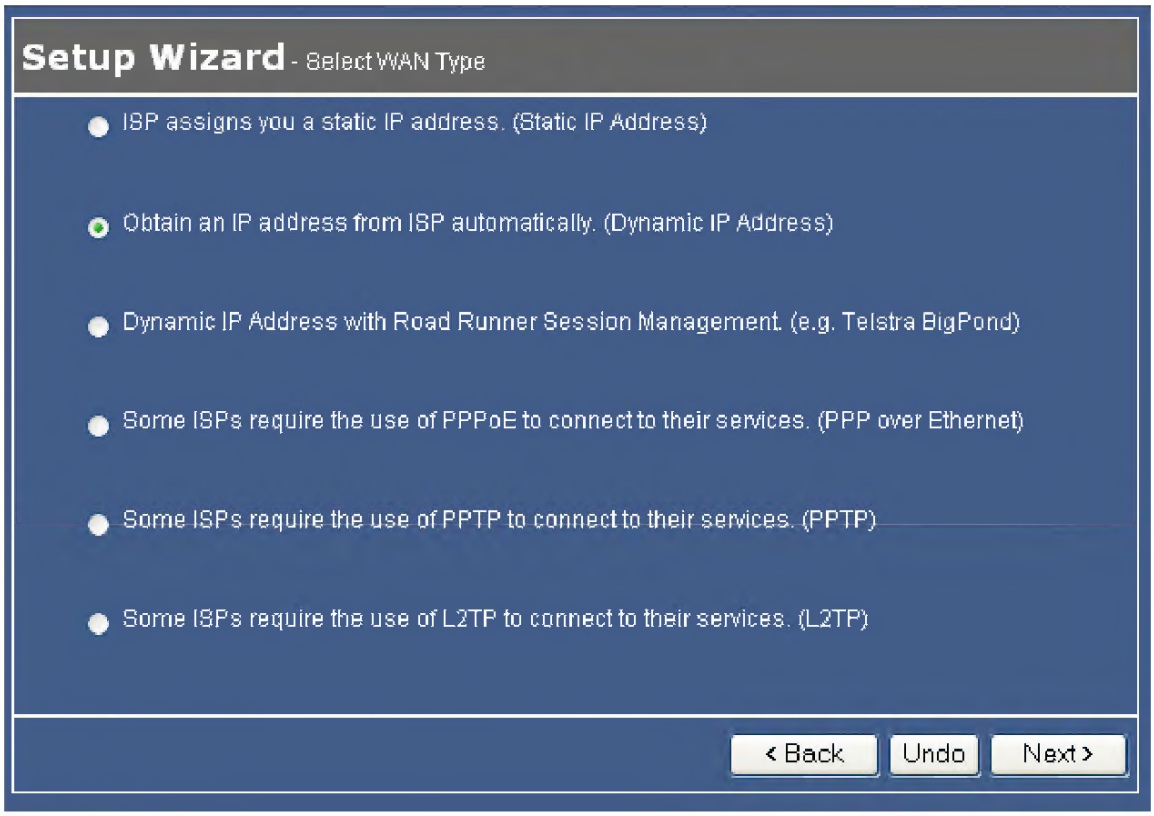
Step 4 Select your **WAN Type** (Internet Connection Type) and click **Next**. If you are not sure what your Internet Connection Type is, please contact your Internet Service Provider (ISP) for assistance.


Setup Wizard - Select WAN Type
ISP assigns you a static IP address. (Static IP Address)
Obtain an IP address from ISP automatically. (Dynamic IP Address)
Dynamic IP Address with Road Runner Session Management. (e.g. Telstra BigPond)
Some ISPs require the use of PPPoE to connect to their services. (PPP over Ethernet)
Some ISPs require the use of PPTP to connect to their services. (PPTP)
Some ISPs require the use of L2TP to connect to their services. (L2TP)
< Back
Undo
Next >

Cable Modem

If you use cable modem, select **Obtain an IP address from ISP automatically (Dynamic IP Address)** and click **Next**. Proceed to **Step 5a, Cable Modem**.

DSL

If you use DSL, select **Some ISPs require the use of PPPoE to connect to their services (PPP over Ethernet)** and click **Next**. Proceed to **Step 5b, DSL**.

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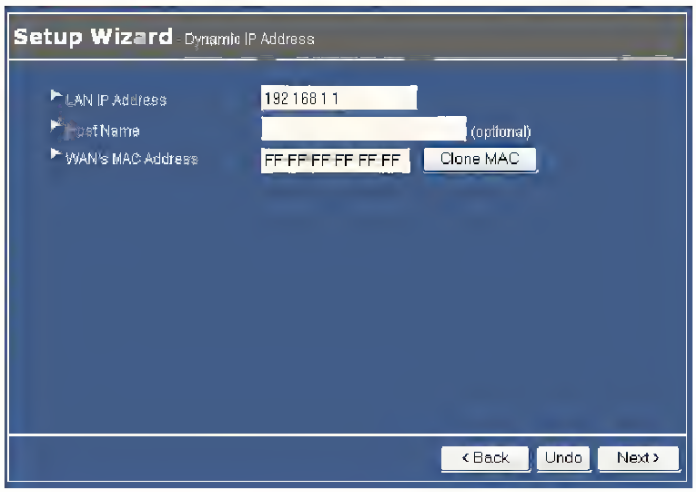
For Cable Modem Users:

Step 5a If your ISP has provided you with a host name, enter it in the **Host Name** field. If your ISP
requires a registered MAC Address, click on the **Clone MAC** button. Click **Next** when done and proceed to **Step 6**.



For DSL Users:

Step 5b Fill in the applicable fields according to the information provided by your ISP. Click **Next** when done and proceed to **Step 6**.

Note: Depending on the ISP, you may need to include the domain name with your account name.

Example: **username@sbcglobal.net**

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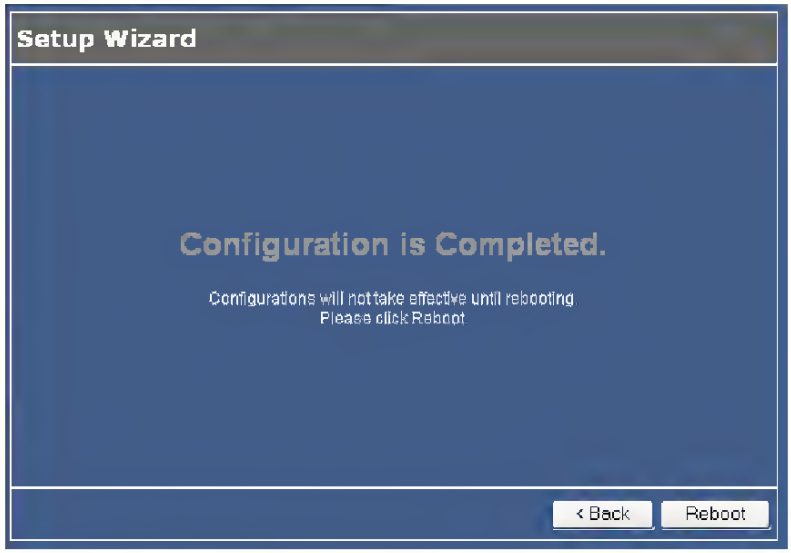
Step 6 Click **Reboot** to apply your settings.



Step 8 Click **OK** to confirm reboot.

Step 9 Wait for the router to reboot and proceed to **Section 4, Verify Connection Status**.

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4. Verify Connection Status and Wireless Settings

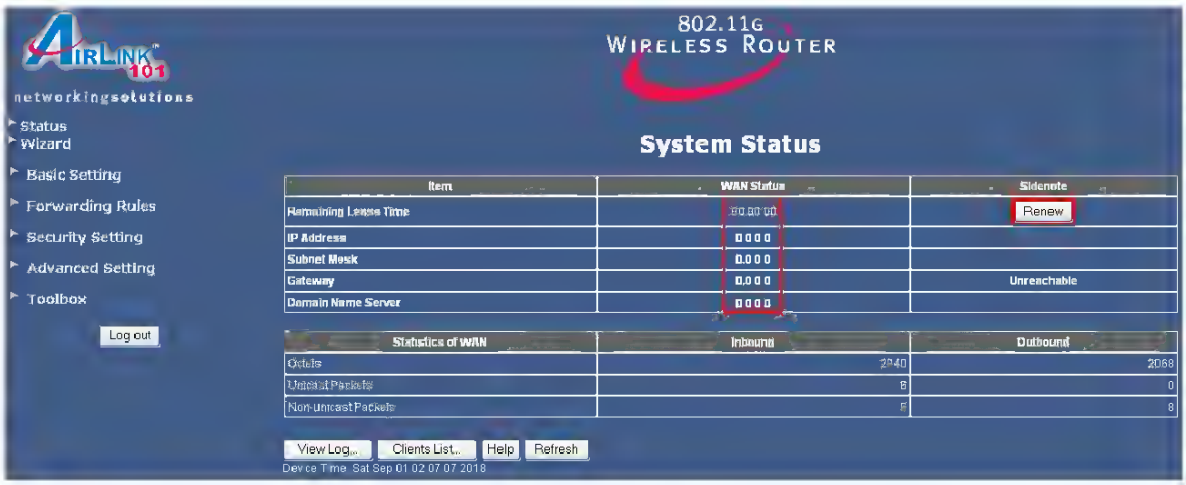
4.1 Checking the System Status

View the System Status to verify your Internet connection.

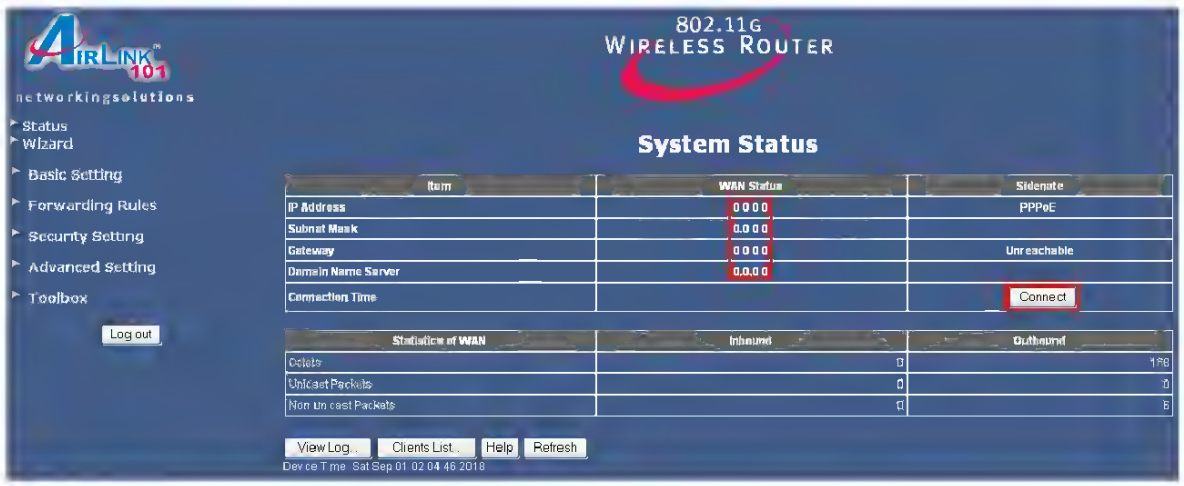
Step 1 Login to the router's web configuration page and click on the **Status** link from the Main Menu.

Step 2 Verify that the **WAN Status** displays valid numbers (instead of all 0's).

If you use **Cable modem** and you see all 0's, click on the **Renew** button.



If you use **DSL** and you see all 0's, click on the **Connect** button.



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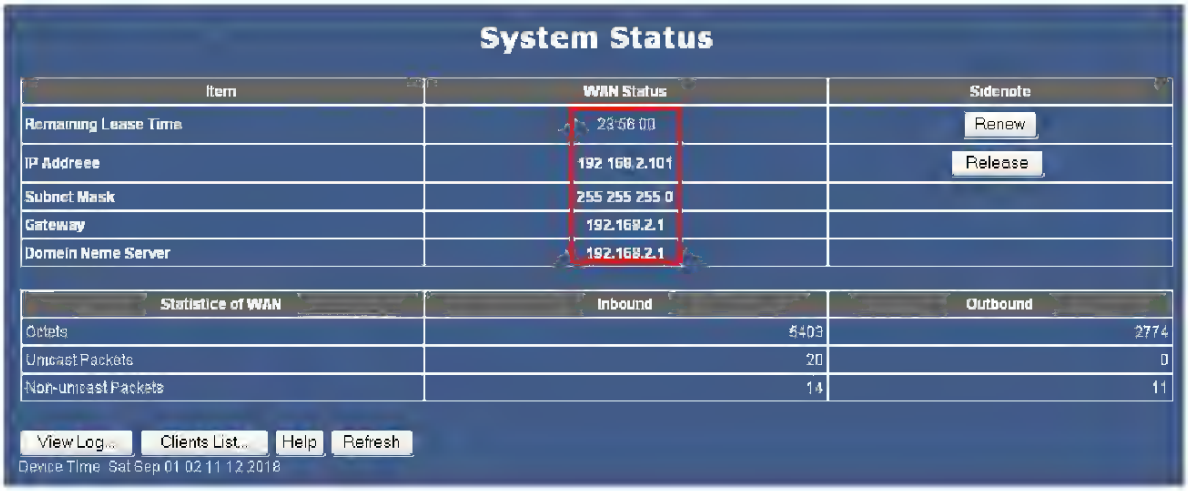
Step 3 Once you clicked the **Renew** or **Connect** button, you should see some numbers under **WAN Status**. This means you have successfully established Internet connection.



Note: If you still see all 0's after clicking on the **Renew** or **Connect** button, try the troubleshooting tips at the end of this manual.

4.2 Connecting to the Router Wirelessly

Below are the default wireless settings of the router. You must configure your wireless network adapter to the same settings in order to establish a wireless connection with the router. Please refer to your wireless network adapter's manual on how to configure these settings.

SSID: **default**
Operating Mode: **Infrastructure**
Authentication: **Open System**
Channel #: **11**
WEP: **disabled**

You may need to restart your computer after establishing a signal strength/link quality with the router.

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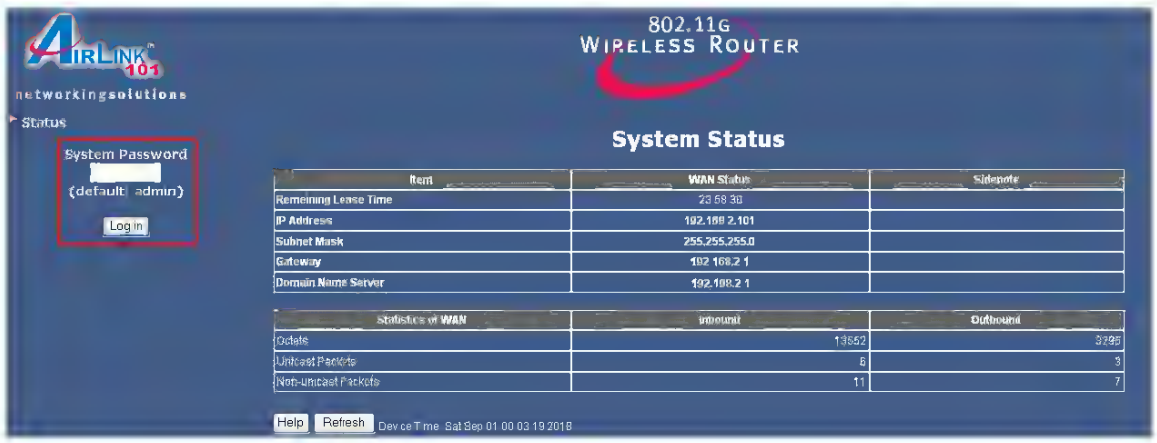
5. Web Configuration

5.1 Accessing the Web Configuration Utility

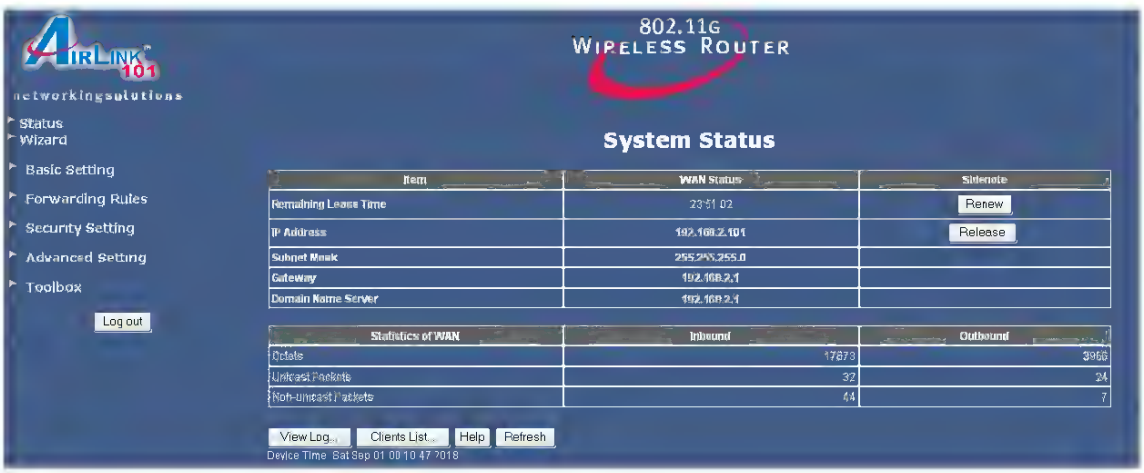
You may configure the router through the web browser using the Web Configuration Utility.

Step 1 Open the web browser and type in **192.168.1.1** and press **Enter**.

Step 2 Enter **admin** for the password field and click **Log in**.



You will see the Web Configuration Utility's home page (System Status). You can navigate through the utility from the Main Menu located at the left side of the page.



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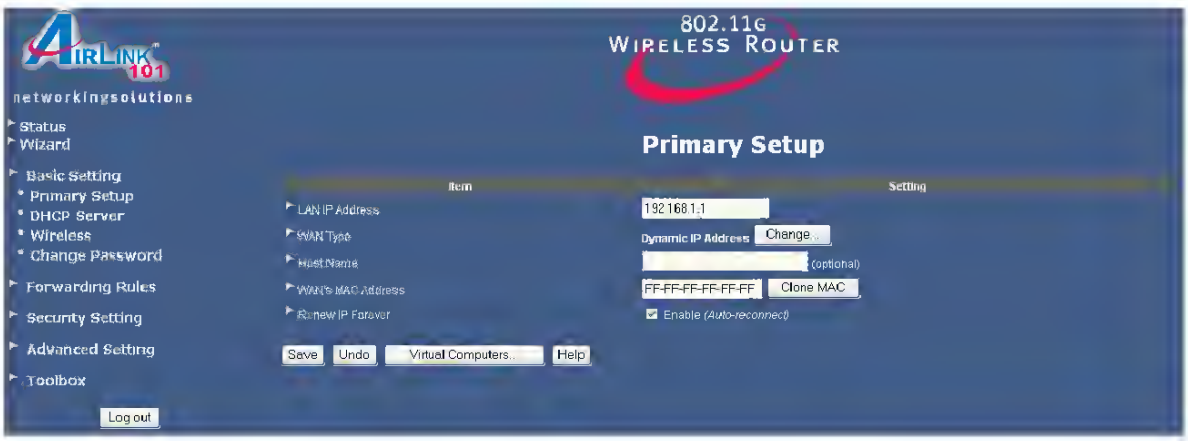
5.2 Basic Setting

5.2.1 Primary Setup

You can set the router's LAN IP address and change the WAN type (Internet Connection Type) on this page.



LAN IP Address: The router's default IP address is **192.168.1.1**. You can change this address to suit your existing network.

WAN Type: Displays the current WAN type (Internet Connection Type) selected. Click the **Change** button to change the WAN type.

The following describes the various WAN types supported by the router:

Dynamic IP Address (For Cable Modem)

Host Name (optional): Some ISPs require a registered host name to connect to their services. Enter the host name provided by your ISP, if applicable.

WAN's MAC Address: Some ISPs require a registered MAC address to connect to their services. Either manually enter the MAC address or click the Clone MAC button.

Renew IP Forever: Checking the **Enable** box will allow the router to automatically renew the IP address automatically when the lease time is expired.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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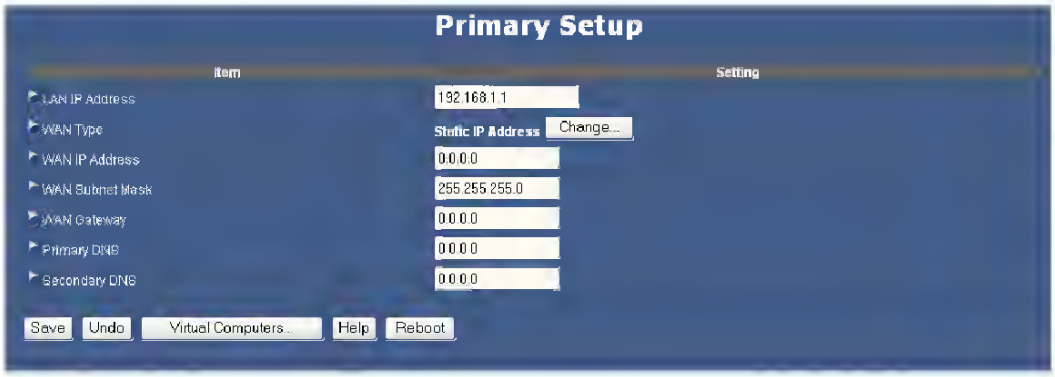
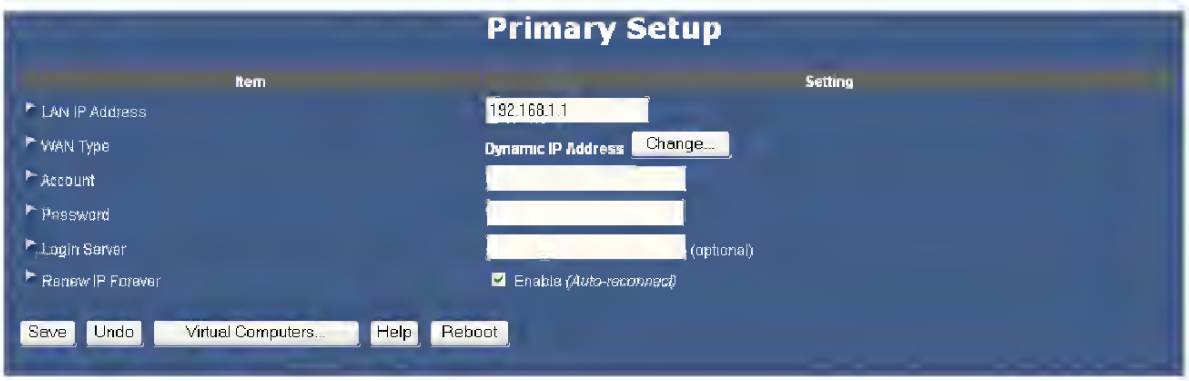
Static IP Address



If your ISP assigns you static IP address, they will provide you the information for WAN IP Address, WAN Subnet Mask, WAN Gateway, Primary and Secondary DNS.

Click **Save** to save any changes or click **Undo** to cancel any changes.

Road Runner



Enter the **Account name** and **Password** required to connect to your ISP. Some ISPs require an additional **Login Server**.

Renew IP Forever: Checking the **Enable** box will allow the router to automatically renew the IP address automatically when the lease time is expired.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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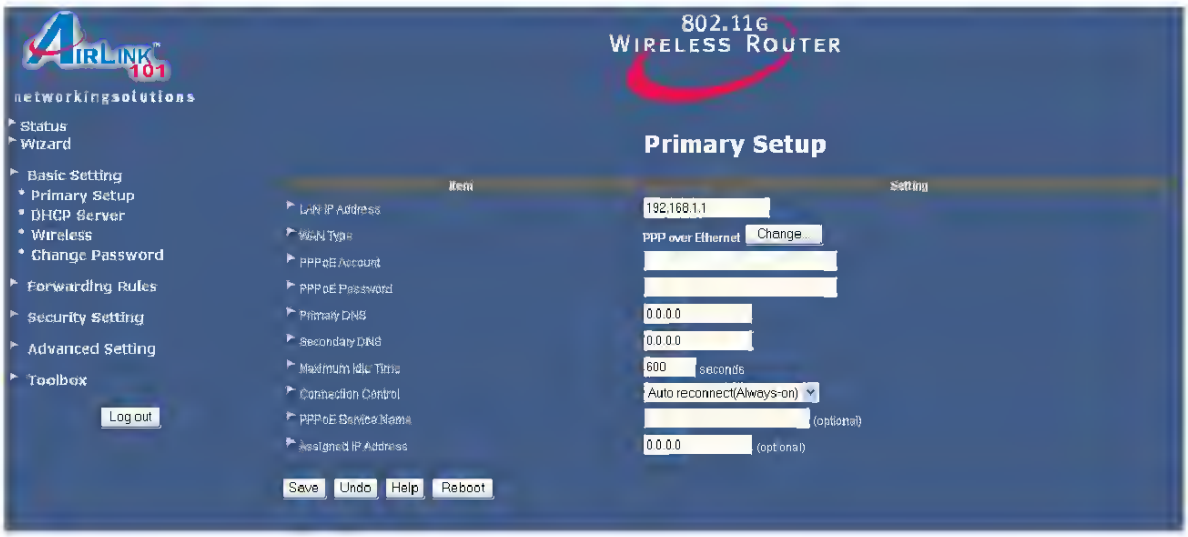
DSL (PPPoE)



LAN IP Address: The router's default IP address is **192.168.1.1**. You can change this address to suit your existing network.

Enter the **Account name** and **Password** required to connect to your ISP. Some ISPs require you to include the domain name with your account name in the Account name field. Example: username@sbcglobal.net

Primary DNS and Secondary DNS: If your ISP provided you with the IP address of the Primary and Secondary DNS servers, you may enter them in the respective field.

Maximum Idle Time (in seconds): Enter the maximum idle time (in seconds) before the router disconnects the PPPoE session.

Auto-reconnect (check box): Checking this box enables the router to automatically reconnect to the Internet once the connection is dropped.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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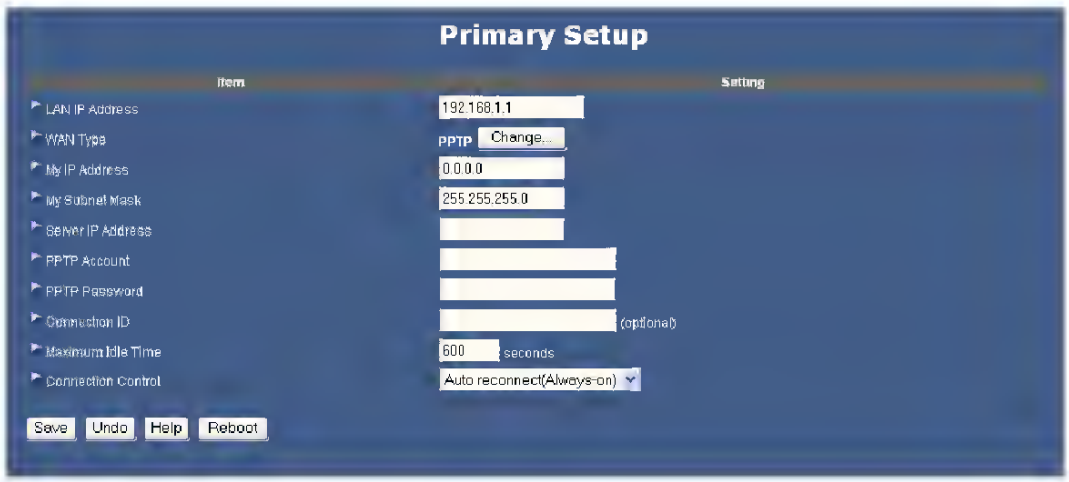
PPTP



Enter the information provided by your ISP in the respective fields.

Connection ID (optional): Some ISPs require the use of a connection ID.

Maximum Idle Time (in seconds): Enter the maximum idle time (in seconds) before the router disconnects the PPPoE session.

Auto-reconnect (check box): Checking this box enables the router to automatically reconnect to the Internet once the connection is dropped.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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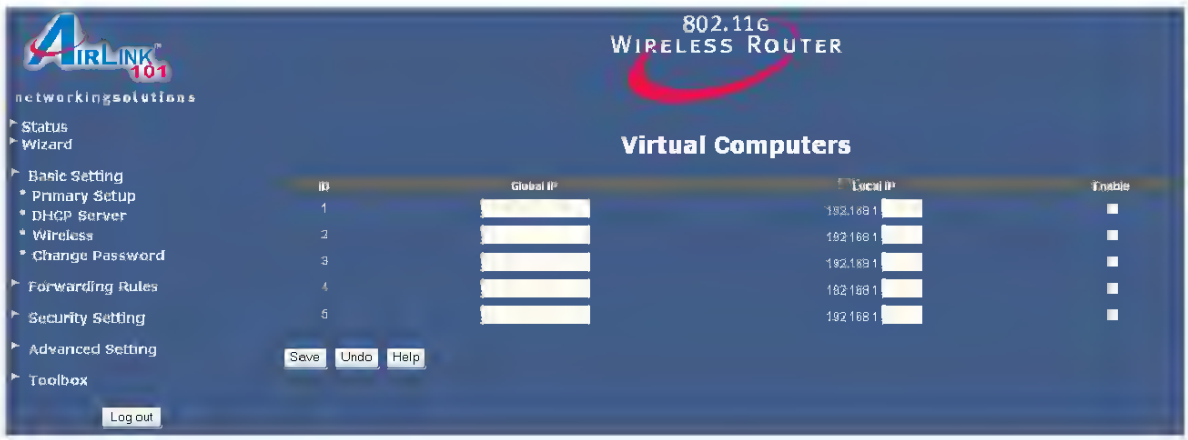
Virtual Computers



The Virtual Computer function enables you to map the Global IP (WAN IP address) assigned by your ISP to the Local IP (LAN IP address) of your computer.

Global IP: Enter the global IP address (WAN IP) assigned by your ISP.

Local IP: Enter the local IP address (LAN IP) of your computer you wish to map to.

Enable (check box): Check this box to enable the Virtual Computer function.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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5.2.2 DHCP Server

This page allows you to configure the DHCP service of the router. DHCP assigns dynamic IP address to all the network devices connected to the router.

DHCP Server: Select either to **Enable** or **Disable** the DHCP service (Default is **Enable**).

IP Pool Starting Address: Enter the start of the IP pool range.

IP Pool Ending Address: Enter the end of the IP pool range.

Domain Name: Enter the domain name of your network (optional).

Click on the **More>>** button to see the following fields. (The following fields are optional).

Primary DNS: Enter the IP address of your network's Primary DNS server.

Secondary DNS: Enter the IP address of your network's Secondary DNS server.

Primary WINS: Enter the IP address of your network's Primary WINS server.

Secondary WINS: Enter the IP address of your network's Secondary WINS server.

Gateway: Enter the IP address of your network's Gateway.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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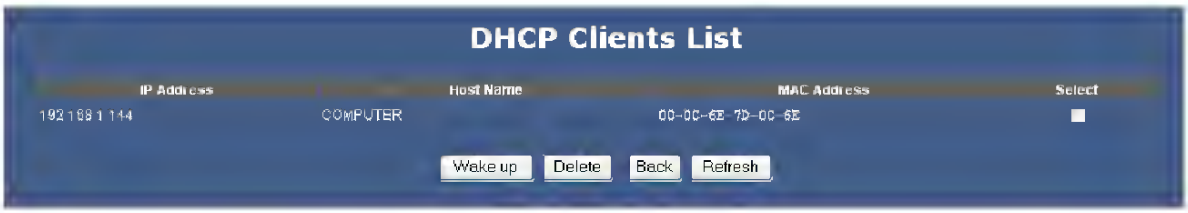
Clients List

The Clients List displays all the DHCP clients currently connected to the router.



To perform the first two functions, select a client from the list first.

Wake up: Sends a wake up packet to the target client. The target client must support the wake up function.

Delete: Deletes the client from the list.

Back: Returns to the previous page.

Refresh: Updates the Clients List.

5.2.3 Wireless

This page allows you to configure the router's wireless security. By default the wireless encryption is disabled. It is recommended that you enable encryption for your wireless connection.

Network ID (SSID): Type an SSID in the text field. The default SSID is **default**. The SSID of any wireless clients must match the SSID typed here in order for the wireless clients to access the router.

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Channel: Select a transmission channel for wireless communications. The channel of any wireless clients must match the channel selected here in order for the wireless clients to access the router.

Security: Select the best encryption method supported by your wireless network adapter.

Disable: No wireless encryption enabled.

WEP: Select to enable WEP encryption.

Select to enable either 64 bit or 128 bit encryption.

WEP Key 1 ~ Key 4: Enter a value for each key.

For 64 bit encryption, use 10 Hex characters (0-9, A-F).
For 128 bit encryption, use 26 Hex characters (0-9, A-F).

Use the radio button to select which key you want to activate. All wireless clients must use the same key number with the identical value. Click **Save** to enable the changes.

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802.1x and RADIUS: Select this option only if you are using a RADIUS server for authentication.

Encryption Key Length: Select either 64 bit or 128 bit encryption.

RADIUS Server IP: Enter the IP address of your RADIUS server.

RADIUS port: Enter the port number of your RADIUS server.

RADIUS Shared Key: Enter the RADIUS shared key.

WPA-PSK: Select this option if your wireless network adapter supports WPA.

Preshare Key: Enter a preshare key (password) for your wireless encryption. Once you have set the preshare key, your WPA enabled wireless network adapter must also use the same preshare key to connect to the router.

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WPA: Select this option only if you are using WPA with a RADIUS server for authentication.

RADIUS Server IP: Enter the IP address of your RADIUS server.

RADIUS port: Enter the port number of your RADIUS server.

RADIUS Shared Key: Enter the RADIUS shared key.

5.2.4 Change Password

This page allows you to change the router's login password. It is recommended that you change the login password for extra security.

Old Password: Enter the current login password.

New Password: Enter the new login password.

Reconfirm: Enter the new login password again.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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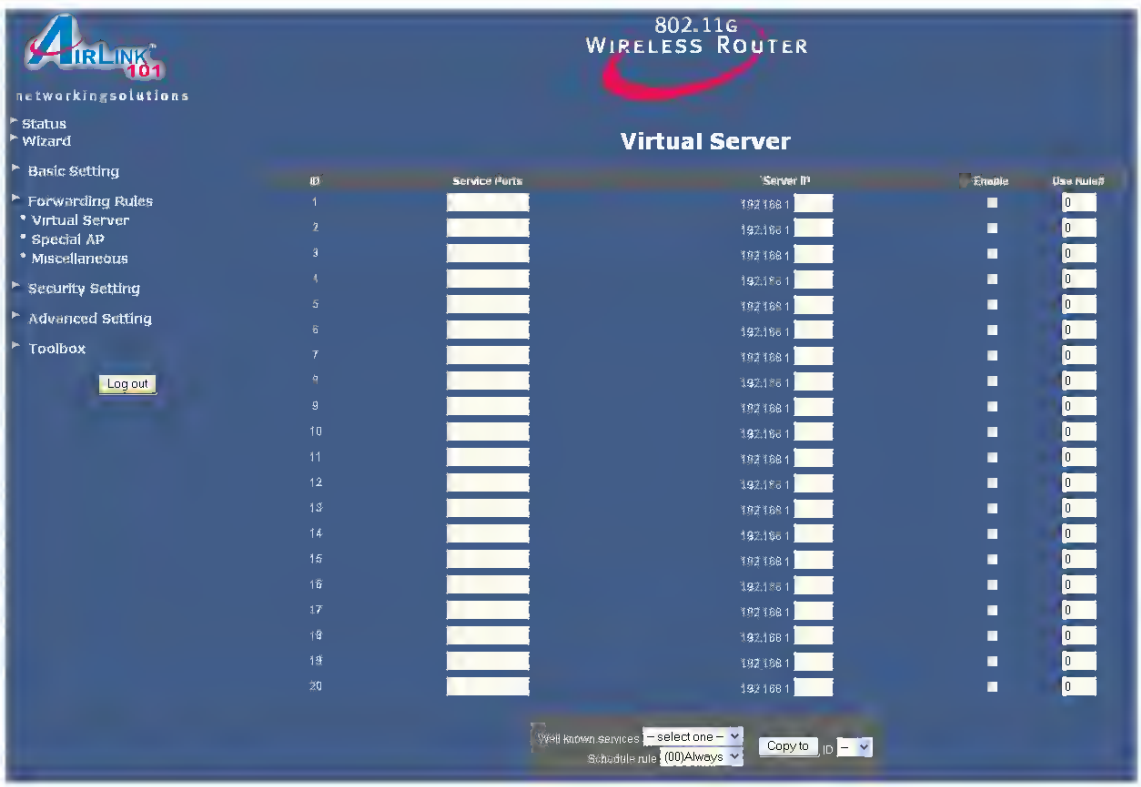
5.3 Forwarding Rules

5.3.1 Virtual Server

If you want to allow Internet users to access your internal web server or ftp server, you can use the Virtual Server function to open up the ports required to access your internal servers.



Service Ports: Enter the service port you wish to open to the Internet.

Server IP: Enter the LAN IP address of the server you want the Internet users to access.

Enable (check box): Check on this box to open the port.

Use Rule# (optional): Enter the Schedule Rule # you wish to apply to the ID. For more information about using the Schedule Rule #, please see **5.5.6 Schedule Rule**.

Well known services: You can choose from a list of frequently used services to copy the port number to the **Service Ports** field.

Copy to (button): Select the **ID #** (1 ~ 20) you want to paste the service to first and then click on this button to paste the port number to the **Service Ports** field.

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Schedule rule: If you have configured any schedule rule, you can select the rule from this list and apply the rule to the specified ID. For more information about using the schedule rule, please see **5.5.6 Schedule Rule**.

Click **Save** to save any changes or click **Undo** to cancel any changes.

5.3.2 Special AP

Some applications require multiple connections, like Internet games, video conferencing, Internet telephony, etc. Because of the router's built-in firewall, these applications cannot work with a pure NAT router. The **Special Applications** feature allows some of these applications to bypass the firewall. If the Special Applications feature fails to make an application work, try setting your computer as a **DMZ** host instead. For more information about setting your computer as a DMZ host, please see **5.3.3 Miscellaneous**.

Trigger: Enter the Outbound port number used by the application.

Incoming Ports: Enter the Incoming port number used by the application.

Enable (check box): Check this box to open the ports.

Popular applications: Select from a list of popular applications.

Copy to (button): Select the **ID #** (1 ~ 8) you want to paste the port numbers to first and then click on this button to paste the port numbers to the applicable fields.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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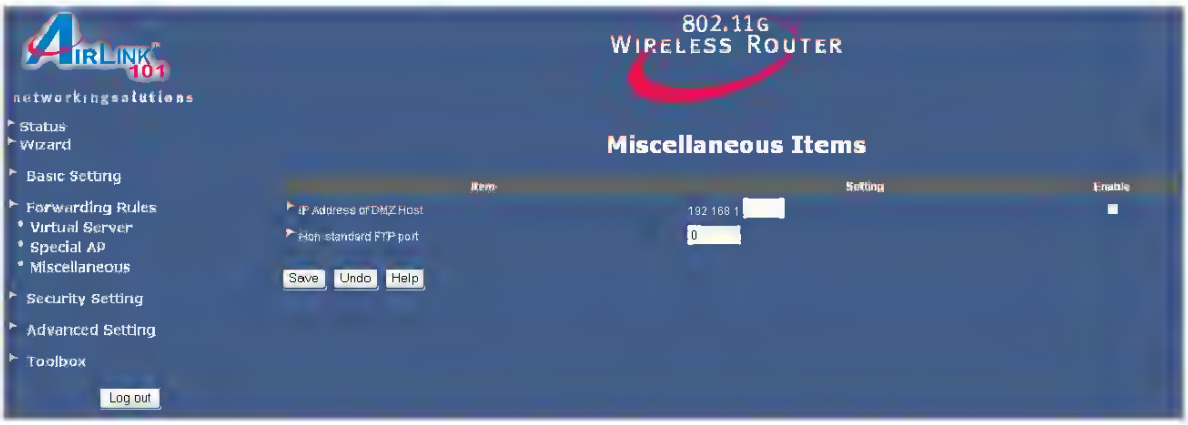
5.3.3 Miscellaneous

DMZ (De-Militarized Zone) Host is a host without the protection of the router's firewall. It allows a computer to be exposed to unrestricted two-way communication with the Internet. You should only use this feature when the Special Applications function fails to make an application work.

Warning: Setting your computer as a DMZ host exposes it to various security vulnerabilities. This feature should be used only when needed.



IP Address of DMZ Host: Enter the LAN IP address of the computer you wish to set as the DMZ host and check on the **Enable** box.

Non-standard FTP port: If your FTP server operates with a non-standard FTP port, enter the port number in this field.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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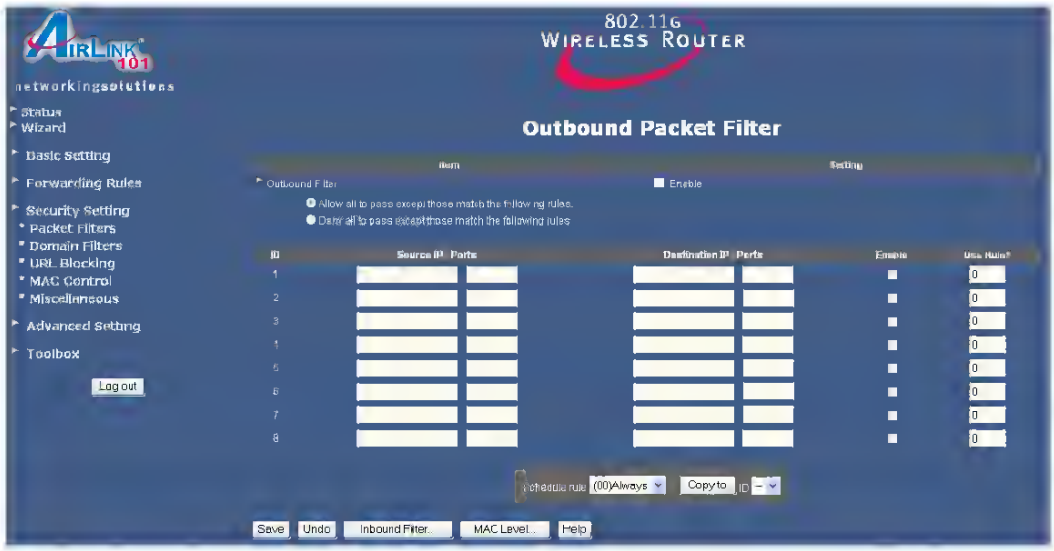
5.4 Security Setting

5.4.1 Packet Filter

Packet Filter enables you to control which packets are allowed to pass through the router. Outbound filter applies on all outbound packets. However, Inbound filter applies to packets that are destined to Virtual Servers or DMZ host only.



Outbound Packet Filter is the default packet filter page. To change to Inbound Packet Filter, click on the **Inbound Filter** button.

You can select one of the two filtering policies:

1. Allow all [packets] to pass except those [that] match the specified rules
2. Deny all [packets] to pass except those [that] match the specified rules

Check on the **Enable** box to activate the packet filter function.

You can specify up to 8 filters for each direction. For each rule (ID), you can define the following parameters:

- Source IP address
- Source port address
- Destination IP address
- Destination port address
- Protocol: TCP or UDP or both.
- Use Rule#

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For source or destination IP address, you can define a single IP address (192.168.1.100) or a range of IP addresses (192.168.1.100-192.168.1.254). An empty field implies all IP addresses.

For source or destination port, you can define a single port (80) or a range of ports (1000-1999). Add the prefix "T" or "U" to specify TCP or UDP protocol.

For example: T80, U53, or U2000-2999. No prefix indicates both TCP and UDP are defined. An empty field implies all ports.

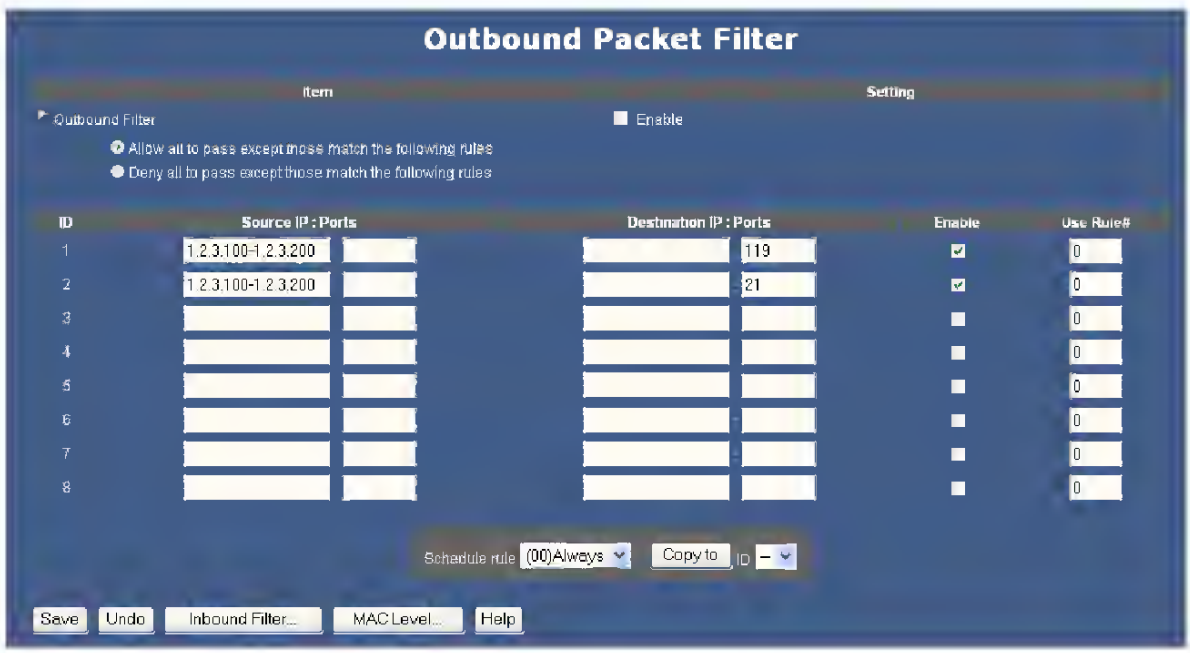
Packet Filter can work with **Schedule Rule**, allowing precise control of when the filters will be active. For more details about Schedule Rule, please see **5.5.6 Schedule Rule**.

Each rule can be enabled or disabled individually by checking or clearing the corresponding **Enable** box for each rule.

Click **Save** to save any changes or click **Undo** to cancel any changes.

Example of using the Packet Filter:

Suppose you want the local clients in your network with the IP address range of 1.2.3.100–1.2.3.200 to do everything except reading the net news (port 119) and transferring files via FTP (port 21), you would enter the following parameters:



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5.4.2 Domain Filter

Domain Filter lets you prevent users from accessing any specified domain.

Domain Filter: Check the **Enable** box to activate the Domain Filter function.

Log DNS Query: Check the **Enable** box to log the action of someone trying to access the specified domain.

Privilege IP Addresses Range: Any IP address that falls between the specified range will be exempt from the domain filter.

Domain Suffix: Enter any domain suffix you wish to filter. For example: something.com

Action: You can choose to **Drop** (block) and/or **Log** the action of someone trying to access a domain that matches the specified filter.

Enable (check box): Check the box to enable each filter.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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5.4.3 URL Blocking

URL Blocking will block the local computers from accessing pre-defined web sites. The main difference between Domain filter and URL Blocking is that Domain filter requires you to input a suffix like .com or .org, etc., while URL Blocking only requires you to input a keyword. In other words, Domain filter can block a specific web site, while URL Blocking can block hundreds of web sites that contain the specified keyword.

URL Blocking: Check the **Enable** box to activate the URL Blocking function.

URL: Enter a keyword in this field. If any part of the web site's URL matches the keyword, the connection will be blocked. For example, you can specify the keyword "something" to block access to all the web sites that have the word “something” in their URLs.

Enable (check box): Check the box to enable each filter.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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5.4.4 MAC Address Control

MAC Address Control allows you to assign different access rights for different users and to assign a specific IP address to a certain MAC address.

MAC Address Control: Check the **Enable** box to activate the MAC Address Control function.

Connection control (check box): Check this box to specify which clients are allowed or denied connection to the router. When this box is checked, the clients listed in the MAC Address table with the C box checked will be subject to the Connection control setting. Choose **allow** to allow those clients with the C box checked to connect to the router. Choose **deny** to deny those clients with the C box checked from accessing the router.

MAC Address: Enter the MAC Address of the client.

IP Address: Enter the IP Address of the client.

C (check box): Check this box to make the client obey the Connection control rule.

DHCP clients: Any DHCP client that is currently connected to the router will be listed here. You can choose any client from the list then select the ID # you wish to paste the information to and click the **Copy to** button. All the information will be pasted to the specified ID #.

Previous and Next (buttons): There are a total of 32 IDs you can apply to the MAC Address Table. Click on the **Previous** or **Next** button to view the previous or next page.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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5.4.5 Miscellaneous Items

Remote Administrator Host/Port: In general, only local users can browse the router's built-in web configuration utility to perform administration tasks. Remote Administration enables you to perform administrative tasks from remote host.

If this feature is enabled, only the host with the specified IP address can perform remote administration. If the specified IP address is 0.0.0.0, any host can connect to the router to perform administrative tasks. You can use subnet mask bits "/nn" notation to specify a group of trusted IP addresses. For example: 10.1.2.0/24.

Note: When Remote Administration is enabled, the web server port will be shifted to 88. You can change web server port to other ports, too.

Administrator Time-out: Idle time to wait (in seconds) before logging out automatically. Set it to zero to disable this feature.

Discard PING from WAN side: When this feature is enabled, any host on the WAN (Internet side) cannot ping the router.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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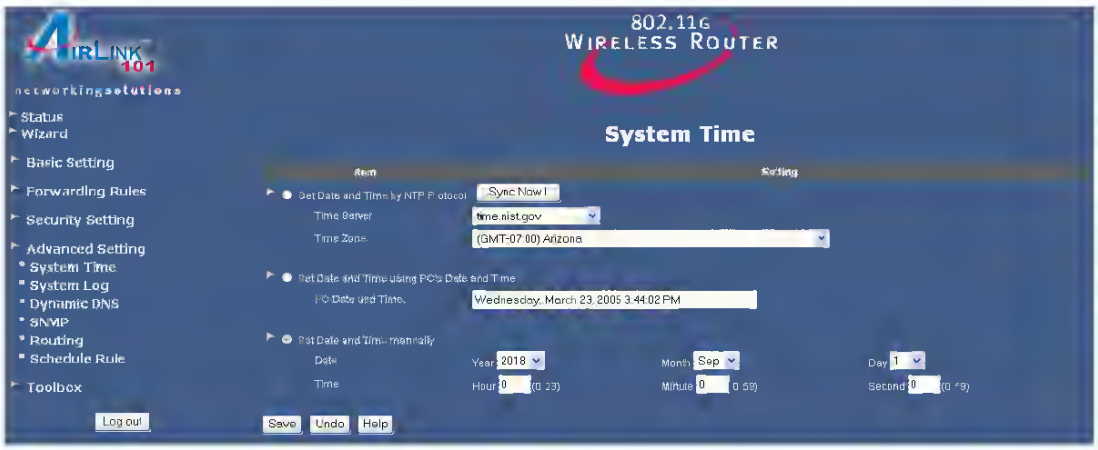
5.5 Advanced Settings

5.5.1 System Time

This page allows you to configure the system time of your router.



Get Date and Time by NTP Protocol: Select this option if you want to obtain the time from a Network Time Server.

Time Server: Select the time server you want to sync with.

Time Zone: Select your time zone.

Click the **Sync Now!** button to obtain the time from the selected time server.

Set Date and Time using PC's Date and Time: Select this option if you want to obtain the time from your PC.

PC Date and Time: Displays your PC's current date and time.

Set Date and Time manually: Select this option if you want to manually set the date and time.

Date: Manually set the **Year**, **Month**, and **Date**.

Time: Manually set the **Hour**, **Minute**, and **Second**.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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5.5.2 System Log

This page allows you to export the system logs to specific destination by means of syslog (UDP) and SMTP (TCP).

IP Address for Syslog: Enter the destination IP Address where the syslog will be sent to. Be sure to check the **Enable** box.

IP Address of Outgoing Mail Server: Input the SMTP server IP and port. If you do not specify a port number, the default value (25) is used.

Log or Alert Recipient: Enter the e-mail address of the recipient who should receive the logs or alerts. Be sure to check the **Enable** box.

View Log (button): Displays the system log.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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5.5.3 Dynamic DNS

Dynamic DNS allows any user who wishes to access your server to reach it by a registered DNS name instead of an IP address. Before you enable **Dynamic DNS**, you need to register an account with one of the Dynamic DNS servers listed in the **Provider** field.

DDNS: Choose to enable or disable DDNS.

Provider: Select the DDNS provider that you registered the account with.

Enter your **Host Name**, **Username**, and **password** for the DDNS account in the respective fields.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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5.5.4 SNMP

Enable SNMP: select to enable SNMP for local and/or remote segments.

Get Community: Enter the desired community

Set Community: Enter the desired community

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5.5.5 Routing

The Routing Table allows you to set which network interface address to use for outgoing IP data grams. If you have more than one router and subnet, you will need to configure the routing table to direct the packets to follow the proper routing path so different subnets can communicate with each other.

You can specify up to 8 routing rules. Enter the destination IP address, subnet mask, gateway, and the hop required for each rule. Check the **Enable** box to activate the rule.

Click **Save** to save any changes or click **Undo** to cancel any changes.

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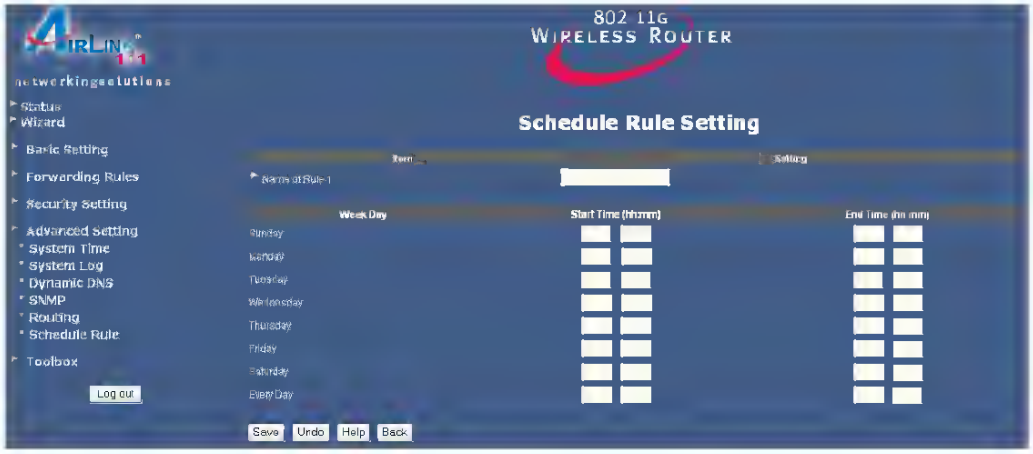
5.5.6 Schedule Rule

The Schedule Rule allows you to set the time when certain services will be on or off. Schedule Rule works in conjunction with Virtual Server and Packet Filter to determine when these services will be active or inactive.

Schedule: Check the **Enable** box to activate the Schedule Rule function.

Click on **Add New Rule** button to add a new schedule rule.



Name of Rule: Enter a descriptive name for the new rule.

Set the day and time that the rule applies to. In the above example, the rule is called ftp time, and it is set to be active everyday from 14:00 ~ 18:00 (2:00 pm ~ 6:00 pm).

Click **Save** to save any changes or click **Undo** to cancel any changes.

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Once you have created the new rule, you can call up this rule from the Virtual Server and Packet Filter page and apply the schedule rule to any IDs in the Virtual Server or Packet Filter page.

Example of using the Schedule Rule with Virtual Server:

Suppose you've set up a FTP server in the Virtual Server page, but you only want users to access the FTP server everyday between the hours of 2:00 pm to 6:00 pm. First create the schedule rule with the desired parameters, then go to the Virtual Server page and select the rule from the Schedule Rule drop-down menu.

Now the Virtual Server for the FTP service will only be active from the hours 2:00 pm to 6:00 pm as specified in the schedule rule, (01)ftp time.

You can follow the same principle in applying the schedule rule to the packet filters.

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5.6 Toolbox

5.6.1 View Log

This page allows you to view the System Log.

Back: Returns to the previous page.

Refresh: Updates the log.

Download: Saves the log to a specified location.

Clear logs: Deletes the log from the system.

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5.6.2 Firmware Upgrade

This page allows you to update the router's firmware.

1. Download the latest firmware from www.airlink101.com web site.
2. Click the **Browse** button to locate the firmware. Be sure to unzip the file first.
3. Click on **Upgrade**.
4. Wait for the upgrade process to complete.

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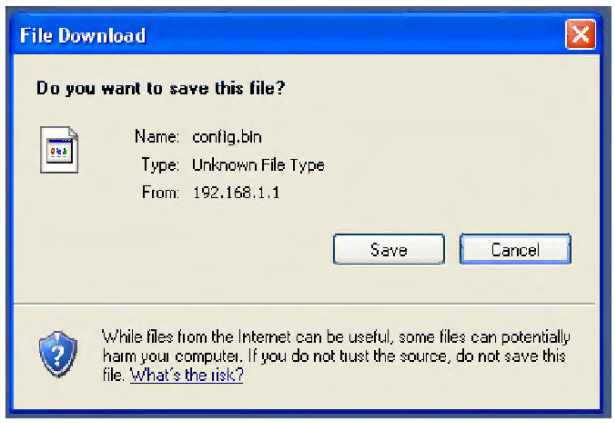
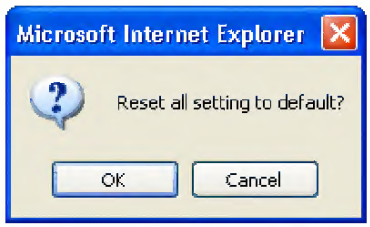
5.6.3 Backup Setting


File Download
Do you want to save this file?
Name: config.bin
Type: Unknown File Type
From: 192.168.1.1
Save
Cancel
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not save this file. What's the risk?

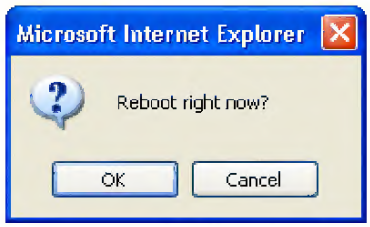
Once you have configured all of the router's settings, you can backup the settings as a file on your hard drive. (The file will be named **config.bin**). When you want to restore the saved settings, go to the firmware upgrade page and browse to the **config.bin** file.

5.6.4 Reset to Default



Click **OK** to restore all settings to factory default.

5.6.5 Reboot



Click **OK** to reboot the router.

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5.6.6 Miscellaneous Items

Wake-on-LAN is a technology that enables you to power up a network device remotely. In order to use this feature, the target device must be Wake-on-LAN enabled and you have to know the MAC address of the device, i.e. 00-11-22-33-44-55.

Clicking the **Wake up** button will make the router send a wake-up frame to the target device immediately.

6. Troubleshooting

For Cable Modem Users Only

Step 1 Go to the router's Setup Wizard.

Step 2 At the Cable Modem setting (**Dynamic IP Address**), click on the **Clone MAC** button and click **Next**.

Step 3 Proceed through the rest of the setup.

Step 4 Verify the **Connection Status** as described in **Section 4**.

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For DSL Users Only

Step 1 Go to the router's Setup Wizard.

Step 2 At the **PPPoE** setting, double-check the spelling of your **Account name** and **Password**. Some ISPs require you to include the domain name along with your account name in the **Account Name** field.

Example: username@sbcglobal.net

Step 3 Complete the Setup Wizard and verify the **Connection Status** as described in **Section 4**.

For Cable Modem and DSL Users

Step 1 Power off the Cable/DSL modem, router, and computer and wait for **5 minutes**.

Step 2 Turn on the Cable/DSL modem and wait for the lights on the modem to settle down.

Step 3 Turn on the router and wait for the lights on the router to settle down.

Step 4 Turn on the computer.

Step 5 Redo the Setup Wizard.

Step 6 Verify the Connection Status as described in **Section 4**.

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Appendix

Technical Support

E-mail: support@airlink101.com

Toll Free: 1-888-746-3238

Web Site: www.airlink101.com

*Theoretical maximum wireless signal rate based on IEEE standard 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, mix of wireless products used, radio frequency interference (e.g., cordless telephones and microwaves) as well as network overhead lower actual data throughput rate.

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